06-2-05

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Jennifer L. Alvarez et al.
Serial No.:	10/789,757
Date Filed:	February 27, 2004
Group Art:	3662
Examiner:	Phan, Dao Linda
Title:	**A METHOD FOR DELIVERING SECONDARY (NON-LOCATION) DATA TO A GPS RECEIVER**

MAIL STOP PETITION
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I hereby certify that this correspondence is being deposited with the United States Postal Service as Express Mail No. EV351261578US addressed to: Mail Stop – Petition, Commissioner of Patents, Office, P.O. Box 1450, Alexandria, VA 22313-1450, on June 1, 2005.

Megan Gwinn

Dear Sir:

NON-FEE PETITION UNDER 37 C.F.R. § 1.181 TO REVIVE HOLDING OF ABANDONMENT

Applicants believe that this request for filing the Non-Fee Petition Under 37 C.F.R. § 1.181 To Revive Holding of Abandonment is applicable to the above-referenced non-provisional patent application.

Applicants received the Notice of Abandonment mailed April 26, 2005, stating that the instant application was abandoned for failing to response to the Office Action mailed September 10, 2004. Applicants submit that a timely Response was filed on December 9, 2004.

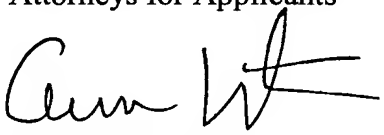
Applicants enclose a copy of the Response to Office Action filed on December 9, 2004, along with a copy of the Express Mail stamped by the post office, and also a copy of the post card stamped by the Patent and Trademark Office evidencing receipt on December 9, 2004.

CONCLUSION

Applicants believe there are no fees due, however, if it is determined that a petition fee or any additional fees or extensions are due, the Commissioner is hereby authorized to charge any fees for this paper to Deposit Account No. 50-2148 of BAKER BOTTS L.L.P.

Respectfully submitted,

BAKER BOTTS L.L.P.
Attorneys for Applicants



Ann C. Livingston
Reg. No. 32,479

Date: June 1, 2005

Send Correspondence to:
Customer No. **31625**
512.322.2634
512.322.8325 (Fax)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Jennifer L. Alvarez et al.
Serial No.:	10/789,757
Date Filed:	February 27, 2004
Group Art Unit:	3662
Examiner:	Phan, Dao Linda
Title:	A METHOD FOR DELIVERING SECONDARY (NON-LOCATION) DATA TO A GPS RECEIVER

MAIL STOP – AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I hereby certify that this correspondence is being deposited with the United States Postal Service as Express Mail No. EV351291447US addressed to: Mail Stop – Amendment, Commissioner of Patents, Office, P.O. Box 1450, Alexandria, VA 22313-1450, on December 9, 2004.

Amanda M. Guido
Amanda Guido

Dear Sir:

RESPONSE TO OFFICE ACTION

In response to the Office Action mailed September 10, 2004, Applicants respectfully submit the following amendments set forth below and request favorable action thereon.

Amendments to Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 6 of this paper.

EV351291447US

CLAIM AMENDMENTS

IN THE CLAIMS

This listing of the claims will replace all prior versions, and listing, of claims in the application or previous response to office action:

1. (Currently Amended) A method of communicating secondary data to a GPS receiver having only GPS hardware, comprising the steps of:

controlling the GPS receiver to search for a specified GPS frequency at a specified time, and with a **GPS** spreading code;

transmitting a secondary data signal that conforms to frequency and data rate characteristics of a GPS signal;

wherein the secondary data signal has subframes having the same format as a GPS navigation data signal except for a portion of the bits within a portion of the words of the subframe, said portion of the bits comprising the secondary data;

receiving and demodulating the secondary data signal at the GPS receiver; and

providing instructions to the processor of the GPS receiver for processing the secondary data.

2. (Original) The method of Claim 1, wherein the first two words of the subframe are conventional GPS words.

3. (Original) The method of Claim 1, wherein the portion of the words of the subframe is the third through the tenth word.

4. (Original) The method of Claim 1, wherein the portion of the bits of the subframe is the first 22 bits.

5. (Original) The method of Claim 1, wherein the secondary data represents assisting data for improving the sensitivity of the GPS receiver.

6. (Original) The method of Claim 1, wherein the secondary data is command data for controlling processor tasks other than geolocation.

7. (Original) The method of Claim 1, wherein the secondary data responds to the same processor function call as navigation data.

8. (Original) The method of Claim 1, wherein the GPS receiver is a target receiver for receiving secondary data not used by non target GPS receivers.

9. (Original) The method of Claim 1, wherein the spreading code is an unused spreading code.

10. (Original) The method of Claim 1, wherein the receiving step is performed by searching in the GPS L1 frequency band with an expected Doppler shift.

11. (Currently Amended) A improved GPS receiver for receiving secondary data, using only GPS hardware including a GPS processing unit, the improvement comprising:

a processing unit programmed to search for a signal having a specified GPS frequency at a specified time, and with a **GPS** spreading code;

wherein the signal conforms to frequency and data rate characteristics of a GPS signal, but is a secondary data signal having subframes having the same subframe format as a GPS signal except for a portion of the bits within a portion of the words of the subframe, said portion of the bits comprising the secondary data; and

the processing unit further programmed to lock to the spreading code, to track the carrier signal, to synchronize the subframe, and to access the data bits within the subframe.

12. (Original) The GPS receiver of Claim 11, wherein the processor is further programmed to interpret the secondary data.

13. (Original) The GPS receiver of Claim 11, wherein the processing unit uses the same function calls for secondary data as for GPS navigation data.

14. (Original) The GPS receiver of Claim 11, wherein the GPS receiver is a target receiver for receiving secondary data not used by non target GPS receivers.

15. (Currently Amended) A method of modifying a GPS receiver having a processing unit so that the GPS receiver may receive secondary message data, comprising the steps of:

programming the processing unit to search for a signal having a specified GPS frequency at a specified time, and with a **GPS** spreading code;

wherein the signal conforms to frequency and data rate characteristics of a GPS signal, but is a secondary data signal having subframes having the same subframe format as a GPS signal except for a portion of the bits within a portion of the words of the subframe, said portion of the bits comprising the secondary data;

further programming the processing unit to lock to the spreading code, to track the carrier signal, to synchronize the subframe, and to access the secondary data bits within the subframe.

16. (Original) The method of Claim 15, wherein the step of programming the processing unit to search is performed by modifying a code search algorithm.

17. (Original) The method of Claim 15, wherein the step of programming the processing unit to lock to the spreading code is performed by accessing a code tracking loop.

18. (Original) The method of Claim 15, wherein the step of programming the processing unit to track the carrier signal is performed by accessing a carrier tracking loop.

19. (Original) The method of Claim 15, wherein the step of programming the processing unit to synchronize with the subframe is performed by accessing synchronization status indicators.

20. (Original) The method of Claim 15, wherein the step of programming the processing unit to access the secondary data bits is performed by accessing software function calls.

REMARKS

This Application has been carefully reviewed in light of the Office Action mailed September 10, 2004. At the time of the Office Action, Claims 1-20 were pending in this Application. Claims 1-20 were rejected. Claims 1, 11, and 15 have been amended to further define various features of Applicants' invention.

Rejections under 35 U.S.C. §102

Claims 1-20 were rejected by the Examiner under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 6,173,005 issued to Michael D. Kotzin et al. ("Kotzin et al.").

Applicants respectfully traverse and submit that the invention taught by Kotzin is easily distinguishable from the invention claimed by Applicants.

In the first place, Kotzin is not directed to GPS receivers or to any aspect of GPS systems. The teachings of Kotzin are directed to cellular telephone systems (CDMA). Kotzin teaches supplementing the multiple transmissions received and processed by a rake receiver in a mobile unit of a cellular system for the purpose of improving signal reception of the mobile unit. The receiver is modified to receive a new and different CDMA signal

There are not many similarities between the data streams used by CDMA wireless communications systems and GPS systems.

Independent Claims 1, 11, and 15 each recite "a GPS receiver" in the preamble. Claims 1 and 11 recite "only GPS hardware". Claim 15 is a improvement to a GPS receiver that does not include any hardware changes. The method of the present invention is directed to modifying a GPS receiver's software to receive secondary data. The secondary data has general-purpose application that may or may not be related to improving signal reception. The secondary data is injected into the GPS communication system using transmitters that are not normally a part of the GPS system.

A novel aspect of the present invention is the manipulation of the existing GPS communication architecture, by delivering the secondary data in a GPS-like format. The same hardware, spreading codes, and communications system as is used for normal GPS signaling is used for the secondary data. The only changes are to the payload of the existing GPS data format and to the software of the GPS receiver.

Even if it is assumed that the cell phone receivers of Kotzin are analogous to the GPS receivers of the present invention, the teachings of Kotzin do not anticipate, or make obvious, the claims of the present invention.

Although Kotzin controls a mobile receiver to search for a specified system frequency and demodulate it, in general, any CDMA receiver does this. The Kotzin et al method relies on transmitting a secondary data signal in portions from multiple antennas. Our system uses a single antenna to transmit the entire message.

Claims 1 - 10

In Claim 1 as amended, the GPS receiver searches for "a GPS spreading code". Claim 1 further recites that the secondary data signal conforms to the frequency and data rate characteristics of a GPS signal. Claim 1 recites a secondary data signal in which all data is received sequentially as a single transmission on a single spreading code.

In contrast, Kotzin teaches the use a data splitter to divide channel data (Col. 2, lines 32-35). These signals that have new and different characteristics, which include transmitting different portions of the signal on different, orthogonal spreading codes. Kotzin assigns the additional orthogonal spreading codes to improve forward link transmit diversity.

Claim 1 recites that the spreading code is a GPS spreading code. That is, the spreading code is already within the GPS system. It is not a new spreading code, not already in the CDMA system, as taught by Kotzin.

Claim 1 further recites that the secondary data signal has the same data rate as a GPS signal. The division of the signal into portions, as taught by Kotzin, does not result in "the same data rate".

Claim 1 also recites specific limitations with regard to the format of the secondary data signal. Kotzin does not teach or suggest the use of a GPS signal for carrying secondary data within GPS format subframes.

For these reasons, Kotzin neither anticipates, or makes obvious, the invention of Claim 1. Claim 1 is allowable, as are dependent Claims 2 - 10.

Claims 11 - 20

Independent Claims 11 and 15 have been amended in a manner similar to the amendment of Claim 1. The GPS receiver searches for "a GPS spreading code". Also, these claims contain the same limitation regarding the GPS format of the secondary data.

For the reasons stated above in connection with Claims 1 - 10, Claims 11 - 20 are also allowable.

Information Disclosure Statement

Applicants would like to bring to the Examiner's attention that Applicants filed an Information Disclosure Statement on April 14, 2004. Applicants respectfully request that the Information Disclosure Statement be considered and cited in the examination of the above-referenced application. Applicants attach a copy of the Information Disclosure Statement and PTO Form 1449 filed April 14, 2004 for the Examiner's convenience and a copy of the postcard receipt evidencing receipt by the Patent Office.

CONCLUSION

Applicants have made an earnest effort to place this case in condition for allowance in light of the amendments and remarks set forth above. Applicants respectfully request reconsideration of all pending claims, as amended.

Applicants believe there are no fees due at this time, however, the Commissioner is hereby authorized to charge any fees to Deposit Account No. 50-2148 of Baker Botts L.L.P. in order to effectuate this filing.

If there are any matters concerning this Application that may be cleared up in a telephone conversation, please contact Applicants' attorney at 512.322.2634.

Respectfully submitted,

BAKER BOTTS L.L.P.
Attorney for Applicants

Ann C. Livingston
Reg. No. 32,479

SEND CORRESPONDENCE TO:
Baker Botts L.L.P.
CUSTOMER ACCOUNT NO. **31625**
512.322.2634
512.322.8325 (fax)

Date: December 9, 2004

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	Jennifer L. Alvarez et al.
Serial No.:	10/789,757
Filing Date:	February 27, 2004
Group Art Unit:	Unknown
Examiner:	Unknown
Title:	***A Method for Delivering Secondary (Non-Location) Data to a GPS Receiver***

I hereby certify that this correspondence is being deposited with the United States Postal Service as Express Mail No. EV352389156US addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Jay Howard

4/14/04
Date

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

INFORMATION DISCLOSURE STATEMENT

Applicants respectfully request pursuant to 37 C.F.R. §§ 1.56, 1.97 and 1.98, that the references listed on the attached PTO-1449 form, be considered and cited in the examination of the above-identified divisional patent application. Copies of the references are enclosed for the Examiner's convenience. Furthermore, pursuant to 37 C.F.R. §§1.97(g) and (h), no representation is made that these references are material to the patentability of the present application.

EV352389156US

Applicants believe no fees are due at this time, however the Commissioner is hereby authorized to charge any fees to Deposit Account No. 50-2148 of Baker Botts L.L.P.

If there are any matters concerning this Application that may be cleared up in a telephone conversation, please contact Applicants' attorney at 512.322.2634

Respectfully submitted,

BAKER BOTTS L.L.P.
Attorneys for Applicants

Ann C. Livingston
Reg. No. 32,479

Date: 4/9/04

Correspondence Address:

Customer Number **31625**

512.322.2634
512.322.8325 – facsimile

PTO-1449

Information Disclosure Citation in an Application

Application No.	Applicant(s)		
10/789,757	Jennifer L. Alvarez, et al.		
Docket Number	Group Art Unit	Filing Date	
090936.0517	unknown	2/27/04	

U.S. PATENT DOCUMENTS

		DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	A	6417800	7/9/02	Valio et al.	342	357.02	1/3/01
	B	6476762	11/5/02	Valio et al.	342	357.02	1/3/01
	C	2002/0167918	11/14/02	Brewer	370	324	2/2/01
	D	6583756	1/24/03	Sheynblat	342	357.02	8/23/01
	E	6603977	8/5/03	Walsh et al.	455	456	2/4/00
	F	6603966	8/5/03	Sheffield	455	423	12/23/97
	G	6611756	8/26/03	Chen et al.	701	213	8/10/00
	H	6625458	9/23/03	Pihl et al.	455	456.1	2/15/02
	I						
	J						
	K						
	L						
	M						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES	TRANSLATION NO
	N							
	O							
	P							
	Q							

NON-PATENT DOCUMENTS

		DOCUMENT (Including Author, Title, Source, and Pertinent Pages)	DATE
	R		
	S		
	T		
	U		

EXAMINER	DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

The "Received" stamp of the Patent and Trademark Office imprinted hereon acknowledges the filing of:

Application - Spec., Claims, Abstract (__ Page(s))

- ☐ CIP
- ☐ Cont
- ☐ Conv. Prov.
- ☒ Provisional
- ☐ Div.
- ☐ Informal/Formal Drawing(s) (__ Page(s))
- Declaration(s)/Power(s) of Attorney (__ Page(s))
  - ☐ Executed
  - ☐ Unexecuted
- ☐ Assignment with Cover Sheet (__ Pages)
- ☒ IDS and PTO-1449 (_3_ Page(s))
  - ☒ w/Refs.
- ☐ Non-Publication Request (__ Page(s))
- ☐ Verified Statement (__ Page(s))
- ☐ __ Mo. Extension of Time (__ Page(s))
- ☐ Amendment/Response (__ Page(s))
- ☐ Issue Fee Transmittal (__ Page(s))
- ☐ Check No. __ Amt.: $
- ☐ Check No. _____ Amt.: $
- ☐ Other:

Inventor(s): Jennifer L. Alvarez, et al.	Serial No.: 10/789,757	Receipt Date & Serial No.:
Title: *A Method for Delivering Secondary (Non-Location) Data to a GPS Receiver*		
Client/Applicant: SwRI	BB File No.: 098936.0517	
Mailed: 4/14/04 Due: Atty/Secy.: ACL/adl	Certificate of Mailing ☒ Express Mail Rept. No.: EV352389156US ☐ First Class Mail ☐ Hand Delivered	

Customer Cop
Label 11-F June 20

EV 351291447 US

EXPRESS MAIL
UNITED STATES POSTAL SERVICE®

Post Office To Addr e

ORIGIN (POSTAL USE ONLY)			
PO Zip Code 78701	Day of Delivery ☐ Next ☒ Second	Flat Rate Envelope ☒ 13.65	
Date In MO. 12 Day 9 Year 04	☐ 12 Noon ☐ 3 PM	Postage $	
Time In ☐ AM ☒ PM 4:55	Military ☒	Return Receipt Fee	
Weight lbs. 1 ozs. 3.0	☐ 2nd Day ☐ 3rd Day	Int'l Alpha Country Code	COD Fee / Insurance Fee
No Delivery ☐ Weekend ☐ Holiday	Acceptance Clerk Initials DM	Total Postage & Fees $ 13.65	

DELIVERY (POSTAL USE ONLY)		
Delivery Attempt Mo. Day	Time ☐ AM ☐ PM	Employee Signature
Delivery Attempt Mo. Day	Time ☐ AM ☐ PM	Employee Signature
Delivery Date Mo. Day	Time ☐ AM ☐ PM	Employee Signature

DEC 9 2004 POSTMARK STATION AUSTIN TX

☐ WAIVER OF SIGNATURE (Domestic Only) Additional merchandise insurance is void if waiver of signature is requested. I wish delivery to be made without obtaining signature of addressee or addressee's agent (if delivery employee judges that article can be left in secure location) and I authorize that delivery employee's signature constitutes valid proof of delivery.

NO DELIVERY ☐ Weekend ☐ Holiday — Customer Signature

CUSTOMER USE ONLY

METHOD OF PAYMENT:
Express Mail Corporate Acct. No. X787915

Federal Agency Acct. No. or Postal Service Acct. No.

FROM: (PLEASE PRINT) PHONE ( )

BAKER BOTTS LLP
98 SAN JACINTO BLVD STE 1500
AUSTIN TX 78701-4052

CG
090936.0577/Livingston

TO: (PLEASE PRINT) PHONE ( )

MAIL STOP AMENDMENT
COMMISSIONER FOR PATENTS
PO BOX 1450
ALEXANDRIA VA 22313-145(

PRESS HARD.
You are making 3 copies.

FOR PICKUP OR TRACKING CALL 1-800-222-1811 www.usps.com

EMS